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Politicians, Incentives and Policy Instruments: Theory and Evidence

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**“Politicians, Incentives and Policy
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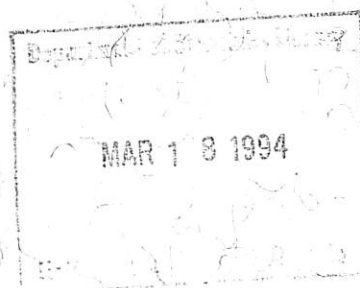
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**POLITICIANS, INCENTIVES AND POLICY INSTRUMENTS:
THEORY AND EVIDENCE*,****

by

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In political science, policy analysis focuses its attention on factors that describe, explain and predict what governments do in relation with four set of variables: policy determinants, policy impacts, policy types and policy instruments. The first strategy lays the stress on political factors that account for variations in policy outputs. The second strategy pays attention to the consequences of government policies. The third strategy for studying policy, which focuses on policy types, leads to the analysis of whether processes vary across policy fields. Finally, the most recent strategy developed, seeks to explain variations in the policy instruments employed to attain policy objectives. The research strategies for studying policy determinants and policy impacts have generally laid emphasis on the validity and reliability of their empirical tools at the expense of theoretical interpretations whereas, the research strategies employed for studying the policy types and policy instruments, have laid the stress on descriptions of institutions, either on institutions of policy making, or on institutions employed to produce and deliver the policy outcomes.

Likewise, the study of policy determinants and policy impacts have had the tendency to focus on the substantive content of choices whereas the study of policy types and policy instruments have laid the stress on rules and procedures governing policy choices. Substantive policy analysis examines the manipulable and non manipulable variables of the policies, whereas institutional policy analysis focuses primarily on the variables that are manipulable by decision-makers.

Institutional policy analysis reflects the preoccupation of political science with structures and decision rules but, like political science, it has not yet been able to evolve from description to explanation and prediction. All too often, institutional policy analysts have focused their attention on a single institution - a department, the executive - involved in a single policy domain - education, health - and employing a single policy instrument - coercitive controls -. The absence of comparison between institutions, policy domains and policy instruments makes its nearly impossible to examine the cumulative effects of incremental institutional changes. Likewise, the absence of comparison makes it exceedingly difficult to develop empirical regularities that contribute to advancement of knowledge.

In short, all too often, institutional policy analysts neglect the substantive aspects of policy outputs, the diversity of institutions and policy instruments in various policy domains and, lastly, the nature of citizens and politicians as they demand and supply policy interventions. This paper seeks to compensate some of these shortcomings by adopting the following comparative research strategy: the substantive components of policy outputs will be examined both in terms of policy domains and types of goods provided; the policy instruments will be disaggregated so as to take into account institutional structures, regulatory instruments and financial instruments; finally, all these elements will be interconnected through concepts of institutional public choice theory by assuming that the choice of the policy instruments employed and the goods provided in the various policy domains may be assessed in relation to four valuative criteria. It is expected that this research strategy will help us to go from description to explanation and prediction.

It is assumed that the policy outputs are delivered through policy instruments and that the choice of instruments affects the benefits appropriable by individuals. Furthermore, it is assumed that politicians prefer policy instruments that are likely to maximize votes to instruments that lead to losses of votes. Although a theory of supply of institutions by politicians has yet to be developed, one may assume that it should include statements about voter preferences as well as statements concerning motivations supporting the decisions made by politicians. The equivalent of a market is created through a transaction system where votes are traded against policies. In a world of perfect and free information, the participants would have no transaction costs to support. However, in the imperfect world in which voters and politicians make up their trades, the politicians are induced to pay more attention to producers than to consumers whereas, on the demand side, the voters tend to be more sensitive to policy interventions that concern them in their role of producers than in their role of consumers.

Conceptualizing Policy Instruments

Policy instruments are the tools employed by governments to produce and deliver their interventions. The studies on policy instruments have their roots in the work of Lowi's (1966, 1972) taxonomy. This pioneering work has stimulated the development of many attempts to classify the policy instruments. The most significant contributions to this literature have been reviewed and analyzed by Howlett (1991). The categorization of policy instruments tends to be constructed according to governing resources and or continuous models that rank the instruments from the least to the most coercitive tools (Linder and Peters, 1989; Hood, 1986; Doern and

Phidd, 1983). Most of these taxonomies are based on highly abstract concepts and, although their proponents have derived hypotheses from them, they are usually not considered as elements of more general institutional theories of public policy analysis. The first shortcoming has generated a large repertoire of abstract categories that defy any attempt to empirically describe and compare policy instruments. With respect to the second deficiency, it has so far prevented this line of studies to evolve from description to explanation and prediction. Let us consider the first shortcoming by pointing out that policy instruments are difficult to describe and compare if one relies on the abstract concepts of taxonomies of policy instruments or on the specific wording of instruments employed by governments. Having in mind that one needs to develop a generic taxonomy of instruments that makes possible empirical comparisons between policy domains and governments, we have come to classify the policy instruments according to three categories of institutional arrangements: institutional structures of production, institutional instruments of regulation and, institutional financial instruments. Let us define each of these categories with their respective subcategories.

Institutional Structures of Production

Whenever a government has decided to provide a particular good or service, it must also decide if it will produce it itself or have it produced by others. If it decides to produce itself, it may create structures such as departments, public enterprises or other types of central agencies. If the government decides to mandate other organizations to produce a good or service, it may

choose between private firms, interest groups, local governments and local institutions such as schools and hospitals.

Institutional Instruments of Regulation

Institutional instruments of regulation are used whenever governments adopt laws and regulation that aim to modify either the market prices or the rules concerning the transactions that would otherwise be used on the private market. We have distinguished five types of regulatory instruments:

- control over the attributes of goods and services or over the attributes concerning production processes of goods and services;
- control over the conditions regarding prices and selling of goods and services;
- control over the conditions of employment;
- control over the entry and exit of producers of goods and services;
- control over the individual rights regarding goods and services and control over the availability of information regarding goods and services.

Institutional Financial Instruments

Finally, governments may employ financial instruments whenever they seek to modify market prices so as to induce individuals to increase or decrease their consumption of specific

goods and services. Having started with a large repertoire of potential financial instruments, we have ended up aggregating them into four broad categories:

- financial assistance;
- taxation;
- costs of goods and services;
- other financial instruments.

Goods and Services Provided

These various categories of institutional instruments are employed to produce and provide goods and services that may be distinguished in function of two basic attributes: excludability and divisibility. Private goods carry perfectly divisible and perfectly excludable benefits. Benefits are considered divisible whenever one may have a finite amount of benefits that may be subdivided between potential recipients. Otherwise, benefits are indivisible. Benefits are considered excludable whenever one may identify an eligibility criterion or a schedule of charges that recipients must meet before consuming the goods. Otherwise, benefits are characterized by nonexcludability. Conversely, public goods convey benefits characterized by indivisibility and nonexcludability. Likewise, one may derive two types of mixed goods from these definitions: club goods characterized by indivisibility and excludability and, common pool goods, defined by divisibility and nonexcludability of their benefits. Finally, whenever a good or service is not characterized with sufficient information to determine its excludability and divisibility, it may be classified in the category of ambiguous goods.

Valuative Criteria

Although the policy instruments are in principle substitutable, the choice of instruments is ultimately a political decision made in a context of high uncertainty. Indeed, governments are induced to prefer certain instruments to others due to various types of constraints. According to Linder and Peters (1989:47), the choice of policy instruments may be assessed in relation to four basic valuative criteria:

- resources intensiveness, defined in terms of costs;
- targeting, defined in terms of level of precision and level of selectivity of recipients of potential benefits;
- political risk, defined in terms of public visibility and potential impacts on voting;
- constraints on state intervention, defined in terms ideological constraints or financial constraints concerning the respective role of the government and the private market.

The Rational Choice of Policy Instruments

In the preceding sections, we have introduced a taxonomy of policy instruments, we have also defined the attributes of the goods and services produced and provided through the policy instruments and, finally, we have specified a set of valuative criteria that one may employ to assess the choice of policy instruments. The choice of instruments depends primarily on their specific contribution to the goals defined by the valuative criteria. Trade-offs have to be made among these criteria and different policy instruments generate different scores on each criteria.

We assume that these valiative criteria affect significantly the choice of policy instruments made by politicians. To be more specific, we assume that this choice depends on how politicians perceive and weigh the benefits and costs resulting from the alternative policy instruments in relation to their valiative criteria. Furthermore, we assume that politicians make their choices on the basis on imperfect information and limited capabilities of information-processing (Ostrom, 1991; Ostrom, Schroeder and Wynne, 1993). Likewise, the participants in the political market have neither access to the same information, nor the same motivation to acquire and process information. From these differences, one can derive a general form of information asymmetry based on the roles of producers and consumers played by individuals in the private market. The producers, whether entrepreneurs or workers, usually obtain most of their income from the possession of a single production factor. Therefore, any proposal of public policy likely to affect the value of their production factor affects significantly their single source of income. This potential impact induces them to acquire and process technical information concerning the changes likely to affect the value of their production factor. Likewise, the fact that they obtain most of their income from a single source induces them to invest in the creation of organizations that seek to promote their production factor on the private market as well as on the political market. Conversely, the expenditures made by consumers are divided between a very large array of goods and services, in a context where each good or service acquired represents usually only a small fraction in the overall basket of their expenditures. Therefore, investments in acquisition and processing of information and investments in the creation of organizations seeking to protect their interests would usually tend to generate costs that exceed the benefits that could be expected from changes in the public policies. As a result, the producers have a higher incentive than the

consumers to invest in information and to create organizations that seek to promote their interests on the private market and on the political market. Hence, the politicians are likely to hear more often from the producers than from the consumers, and to receive more technical information from the organizations representing interests of the producers.

These asymmetries in the incentives to invest in information and in lobbying organizations are likely to induce the politicians to supply public policies that are more often profitable to producers than to consumers. Furthermore, these two asymmetries generate a political market of special interests that is likely to induce the politicians to supply more often private goods than public goods because they are more visible and have a higher private value for their potential recipients.

This incentive structure is driven by the desire of the politicians to be elected or reelected. It induces them to supply public policies that maximize their probability of reelection in serving their most sensitive constituents, the producers. If a representative does not act like a vote maximizer, he or she can be defeated by a challenger who does. Therefore, in a situation of electoral competition, the winning politicians - including the most altruistic ones - will be induced to act like vote maximizers.

Until now, we have argued that the choice of policy instruments depends primarily on two evaluative criteria: political risk and the targets of policy outcomes. From this general argument, one can derive that the politicians are induced to offer more often private than public goods and,

additionally, that they are induced to prefer more often to offer these private goods to producers than to consumers.

The choice of policy instruments is also constrained by the political ideologies defining more or less precisely the role of the state, especially, what policy instruments should or should not be used to affect decisions made by producers and consumers on the private market. Therefore, one may predict that a conservative political party will be induced to favor more often entrepreneurs than workers whereas a social democrat party will be induced to target more often workers than entrepreneurs.

Likewise, political ideologies may induce the parties to prefer particular policy instruments. Hence, with respect to the institutional structures of production, a conservative party is expected to prefer to rely more often than a social democrat party on private market instruments of production, whereas a social democrat party is expected to employ governmental or quasi-governmental instruments of production more often than a conservative party.

With respect to the criteria of resource intensiveness, one may assume that, in addition to the fact that political competition induces the parties to seek to produce and provide the policies generating the highest net benefits, financial constraints and ideological constraints induce them to prefer the regulatory instruments since, contrarily to the other categories of instruments, they are non-depletable (Hood, 1989). Furthermore, regulatory policy instruments may be considered as providing more secure benefits for their recipients because they usually

remain in force unless the governing party is willing to repeal an act of the legislature conferring benefits upon special interests. Finally, one may assume that the entitlements to the benefits conferred by law are usually forwarded by inertia, whereas the benefits provided through the financial policy instruments have to be reviewed yearly through the discussions concerning the preparation of budgetary expenditures.

The extent to which these theoretical predictions are confirmed by empirical evidence is addressed after a short discussion of the methodology of data collection.

Data Collection

The data collection is based on a content analysis of the official programs of the main provincial political parties of Québec that have competed in electoral campaigns between 1960 and 1989. Data collection proceeded in four main steps: selection of the documents; determination of the unit of analysis; data recording; and data verification and validation.

Except for electoral campaign of 1970, where we have analyzed three programs, we have made a content analysis of the programs of the two major parties which were the Libéral Party and the Union Nationale in 1960, 1962, 1966 and the Libéral Party and the Parti Québécois in 1973, 1976, 1981, 1985 and 1989. The length of these programs has varied from a few pages of text in the beginning of the 1960's up to more than a hundred pages in the 1980's.

Instead of working with the number of pledges made by policy domain, like it is usually the case, we decided to work with a more complex unit of observation, the measure of governmental intervention (Landry, 1992). Such a measure is made up of four basic components:

- Who is responsible for the intervention? for example, the Ministry of Higher Education.
- What is the connecting verb being used to describe the intervention? for example, will increase.
- What are the attributes of the goods and instruments employed through the intervention being offered? for example, the number of scholarships.
- What are the beneficiaries being targeted by the intervention? for example, offered to university students.

Data were recorded using a closed questionnaire that makes this approach to content analysis somewhat analogous to an interview where analysts ask questions to documents and answer a questionnaire developed for that purpose. In this perspective, the first task of analysts was to identify the measure of governmental intervention and to record it on the questionnaire. The second step was to analyze the content of the measure. This task was facilitated by the use of a closed questionnaire made up of questions concerning various attributes relative to goods and instruments of governmental interventions.

The questionnaires were administered by research assistants who have worked on the research projet on a full time basis. The completed questionnaires were checked by another person so as to increase reliability and validity of the analysis. The questionnaires were then

recorded on a computer tape, and the validity of the analysis checked by a computer program designed to detect illogical answers. These logical inconsistencies were checked manually. These operations of quality control led us to correct about 4 per cent of the completed questionnaires.

Results

This methodology of content analysis generated 7887 observations. Table 1 indicates that the number of measures of governmental interventions identified in the programs has increased steadily from 1960 until 1981, where it has reached an average peak of 1000 measures, and that it has since then started to decrease slowly in the case of the Parti Québécois, but quite abruptly, to the level of the mid 1960's, in the case of the Parti Libéral. These figures may be considered as a good index assessing the ideological shift of the political parties: although the Parti Québécois and the Parti Libéral du Québec have both become less state interventionist, the distance that separates their interventionist propension has been widening continuously since 1981.

Table 1			
Governmental measures proposed in the political programs of the Québec provincial parties since 1960			
Electoral Year	Party		
	Parti Libéral (PLQ)	Union nationale (UN)	Parti Québécois (PQ)
1960	124	17	-
1962	36	96	-
1966	165	190	-
1970	260	206	355
1973	389	-	584
1976	450	-	656
1981	893	-	1180
1985	367	-	910
1989	170	-	839

However, these measures of governmental interventions do not always provide sufficient information so as to determine the policy instrument that will be employed to implement them. It is the case when a party commits itself to improve the quality of the health care services in hospitals without any specification concerning the tools to be employed to achieve this goal. Like we have mentioned in a preceding section, the policy instruments are the tools employed by governments to implement their interventions. The figures of Table 2 indicate that the political parties specify the categories of tools that they intend to employ to implement their pledges in slightly more than 50% of their policy measures. This trend has not significantly changed during the overall period. With respect to the institutional structures of production, if one excepts the peak of 1966 and the bath of 1985, they constitute the category of policy instruments employed in nearly a quarter of the governmental measures. The proportion of measures based on regulatory instruments has increased more or less steadily from 1960 until

1981 and it has since decreased continuously. Finally, the proportion of the policy measures to be implemented through the financial instruments has decreased more or less steadily from 1960 until 1985. If one considers the overall period, one may conclude that the parties have preferred to base the implementation of their policy promises more often on institutional structures of production than on the two other categories of instruments. One should here notice that the decline in the use of the financial instruments has preceded by more than a decade the budgetary constraints limiting the governmental initiatives requiring financial resources.

Table 2											
Distribution of the measures by category of policy instruments and by year (in percentage)											
Category of policy instruments	Polarity of the instruments *	Year									
		1960	1962	1966	1970	1973	1976	1981	1985	1989	1960 1989
Structures of production	Implementation	16,3	6,8	24,2	14,3	11,2	12,6	11,8	8,9	14,7	12,5
	Reduction	0,7	2,3	0,6	0,5	0,7	0,8	0,7	0,1	0,2	0,6
	Indefinited	7,8	9,1	14,6	14,0	11,4	11,2	9,5	7,7	12,7	10,8
Total		24,8	18,2	39,4	28,8	23,3	24,6	22,0	16,7	27,6	23,9
Regulatory instruments	Implementation	8,5	10,6	9,6	16,2	20,0	19,8	19,0	15,8	13,7	16,9
	Reduction	0,7	1,5	1,4	2,6	2,2	2,7	4,4	3,1	3,3	2,8
	Indefinited	0,0	1,5	0,3	1,0	1,3	0,8	0,9	0,8	1,6	1,0
Total		9,2	13,6	11,3	19,8	23,5	23,3	24,3	19,7	18,6	20,7
Financial instruments	Implementation	22,7	15,9	16,1	11,2	11,5	9,0	10,8	8,5	17,1	11,6
	Reduction	2,8	5,3	5,3	2,4	1,8	2,2	1,4	2,4	1,7	2,1
	Indefinited	7,8	6,1	3,1	2,7	3,9	2,8	3,0	2,4	3,6	3,2
Total		33,3	27,3	24,5	16,0	17,2	14,0	15,2	13,3	22,4	16,9
Indefinited		41,1	50,0	31,3	43,1	43,9	46,4	56,2	73,3	44,1	54,3
N		141	132	355	821	972	1106	2073	1277	984	7861

* "Implementation" includes "maintenance" and "augmentation". Implementation refers to the establishment of a new policy instrument. Maintenance means that there is no change in the use of a policy instrument. Augmentation refers to an increase in the use of a policy instrument.

"Reduction" refers to a decrease in the use of a policy instrument.

"Indefinited" refers to cases that do not carry sufficient information to identify the polarity of an instrument.

The governmental measures differ, however, in whether their principal policy tool is structures, regulation, financial resources, or a mix of several policy instruments. When policy domains are ranked according to the proportion of measures based on the institutional structures of production very substantial differences are found (Table 3). The policy measures concerning consumption are implemented through structures of production 39,6% of the times. The other

policy domains making the most important claims upon the structures of production are: research and technology (38,7%), culture and communication (36,2%), environment (34,7%), public services (29,9%) and leisure (28,1%). When attention is turned to the policy domains that are the biggest claimer upon the financial instruments, very different rankings are found. The domain of social security is the biggest claimer upon financial instruments (71,2%), followed by municipalities and regions (35,8%), agriculture and fisheries (27,5%), labor (18,7%) and research and technology (18,5%). Finally, when focus is laid on the regulatory instruments, very different rankings of policy domains are found once more. Policy measures concerning language are founded on regulatory instruments in 48,9% of cases, followed in order, by language and labor (48%), consumption (42%), justice (25,5%), social services and health (23,9%).

Table 3					
The Claims of the policy domains upon the policy instruments					
Policy Domains	Categories of Policy Instruments				
	(N=)	Production (%)	Regulatory Instrument (%)	Financial Instrument (%)	Indefinited (%)
<u>Governmental Sector</u>					
Constitution	311	05,1	02,6	06,1	86,2
Political Regime and Electoral Institutions	167	10,3	20,6	10,3	58,7
Administrative and Financial management	247	20,2	10,5	02,4	67,6
Justice	415	26,0	25,5	08,3	45,8
Municipalities et regions	151	26,5	09,3	35,8	35,1
International Affairs	171	10,1	03,6	01,2	84,8
Sub-total	1462				
<u>Economic Sector</u>					
Research and Technology	349	38,7	05,5	18,5	46,7
Economic Policies	1056	27,6	15,3	18,4	44,6
Publics Services	185	29,9	15,2	13,6	48,1
Agriculture and Fisheries	456	18,9	23,1	27,5	40,6
Natural Resources	201	23,9	17,4	17,9	48,3
Tourism	160	25,0	10,0	14,4	51,3
Sub-total	2407				
<u>Social Sector</u>					
Social Security	226	02,7	9,3	71,2	26,1
Social services and Health	853	27,3	23,9	17,8	38,8
Labor	659	18,2	48,0	18,7	30,4
Environment	290	34,7	23,3	12,2	44,8
Consumption	503	39,6	42,0	17,7	18,9
Sub-total	2531				
<u>Educational and Cultural Sector</u>					
Language	135	09,6	48,9	03,7	41,5
Education	602	14,2	16,0	13,3	57,8
Culture and communication	378	36,2	16,9	12,2	43,7
Leisure	231	28,1	8,2	15,6	52,4
Emigration-immigration	140	13,6	22,9	04,3	60,0
Sub-total	1486				
TOTAL	7886				

$\chi^2 = 677,4$ (P < 0,001) Cramer's V = 0,311

Overall, the claims made by the policy domains upon the policy instruments tend to vary very widely according to patterns that are not entirely unexpected: the measures concerning social security are primarily based on financial instruments, the interventions concerning language and labor are most frequently founded on regulatory tools, and finally, the policy measures concerning research and technology, culture-communication, and environment are primarily based on institutional structures of production. The policy measures concerning consumption can be considered as exceptional policy domains that require simultaneous intensive use of structures of production and regulatory tools.

The figures of Table 3 show that the proportion of the policy measures with no explicit mention of policy instruments (column indefinited in Table 3) is high and the variations from one policy domain to the next are also high. More than 80% of the policy measures promised about the constitution and international affairs do not mention explicit policy instruments. Likewise, about 60% of the measures involving pledges about the political regime and electoral institutions, management of public finance and public institutions, as well as about immigration or emigration do not mention any instruments of policy implementation. At the other extreme of the spectrum, the policy measures offered in domains such as consumption and social security carry their tools of implementation in about 80% of the measures. In the same vein, one may also point out that about one third of the pledges made in matters of labor, health and social services, municipalities and regions carry specific information about their instruments of implementation. Whatever the policy domain considered, except for tourism, the Parti Libéral has a stronger propension to make pledges that do not specify explicitly any instrument of implementation. In other words, the Parti

Libéral is less likely than the Parti Québécois to indicate how it plans to implement its policy pledges. This tendency is stronger in matters of constitution (90% of indefinite measures for the PLQ against 81% for the PQ), economic policies (58% for the PLQ against 36% for the PQ), natural resources (62% vs 34%), social security (32% vs 25%), health and social services (48% vs 34%), labor (36% vs 27%), language (52% vs 30%), and culture and communication (56% vs 38%). These systematic and important differences between the parties might indicate that the pledges made by the more social democrat party, that is the Parti Québécois, are based more frequently on a dirigist view of government interventions than it is the case for the Parti Libéral, which, by offering more frequently ambiguous policy measures, more frequently bases its pledges on the *laissez-faire* of the private market mechanisms.

Finally, before turning attention to the evaluative criteria, one may want to pay some attention to variations found between the three political parties according to the specific policy instruments included in each of the three categories of tools considered until now. With respect to the tools of production, if one excepts the important differences between the UN and the other parties, one may notice that the PLQ has a slightly higher tendency to rely on private firms and interest groups than the PQ, and that the PQ tends more often than the Parti Libéral to plan to implement its policy measures through departments, local governments, schools and hospitals (Table 4). These differences have to be tempered by the fact that the Parti Québécois has shown a higher tendency than the Parti Libéral to specify its institutional tools of production.

Table 4			
Distribution of the Policy Instruments by party, 1960-1989 (in percentage)			
Category of Policy instruments	PLQ	UN	PQ
PRODUCTION	%	%	%
Firms and interest groups	02.8	2.4	03.5
Departments	13.2	24.7	18.4
Local governments, schools and hospitals	02.8	03.1	04.4
Sub-total:	18.8	32.9	26.3
REGULATION			
Attributes of goods and methods of production	01.4	0.8	01.9
Conditions regarding prices and selling	03.7	03.3	04.6
Employment conditions	03.0	02.0	04.4
Entry and exit of producers	01.5	01.0	03.5
Individual rights and control over information	06.4	04.3	10.8
Sub-total:	16.0	11.4	25.2
FINANCIAL INSTRUMENTS			
Financial assistance	10.0	13.2	08.8
Taxation	02.7	05.5	03.0
Costs of goods and services	01.5	02.8	01.3
Other financial instruments	01.8	02.0	03.7
Sub-total:	16.0	23.5	16.8
N =	N = 2854	N = 509	N = 4524

$\chi^2 = 19.1$ (P < 0,001) Cramer's V = 0,228

Likewise, the Parti Québécois tends more often than the other parties to specify the regulatory instruments it plans to employ at the implementation stage. The figures of Table 4 indicate very clearly that the Parti Québécois plans to use regulatory instruments much more often than the Parti Libéral. Finally, the views of the parties concerning the financial instruments of policy implementation tends to be more similar, except that the Parti Libéral prefers to employ the tool of financial assistance more often than the PQ, and conversely, that the Parti Québécois tends to rely more frequently on other financial tools of policy implementation than the Parti Libéral.

One can proceed a step further by laying the stress on the variations between the parties that occurs according to the policy domains and policy instruments. With respect to the institutional structures of production of goods and services, data indicate that the Parti Québécois plans more frequently than the Parti Libéral to implement its policy pledges through instruments such as departments and other forms of central agencies, especially in matters of research and technology, natural resources, environment, as well as culture and communication. The only exception to this general tendency concerns the measures about tourism where the Parti Libéral bases more frequently its pledges on departments and other central agencies than the Parti Québécois does. Another interesting difference between the two parties involves the pledges which implementation is granted to interest groups and private firms. Given its ideology, one might have expected that the Parti Libéral shall base the implementation of its pledges more frequently than the Parti Québécois does on instruments such as private firms and interest groups.

This hypothesis is supported by data only in matters involving policy measures about research and technology.

With respect to regulatory instruments, once again the social democrat party demonstrates a higher propension to base its policy measures concerning individual rights and rights to information on the recourse to additional regulatory control. This propension is especially evident in the policy domains concerning the political regime and electoral institutions, natural resources, health and social services, education and language. This propension is reversed in the case of the policy pledges involving environmental issues where policy pledges of the Parti Libéral rests more frequently on additional regulatory control than the pledges made by the social democrat party.

Party differences are also noticeable in the intensiveness of use of the financial policy instruments. Data indicate that the social democrat party develops more frequently than the other parties policy measures that rest on financial assistance, especially in matters involving natural resources and social security whereas, in matters of environment and culture, it is the Parti Libéral that relies more frequently on the resource to instruments involving financial assistance.

The producers tends to be targeted by policy measures about 60% of the times, whatever the categories of policy instruments employed (Table 5). Moreover the entrepreneurs tends to benefit more frequently than the workers from the Parti Libéral and the UN, whatever the periods and the policy instruments. Whenever the Parti Libéral develops policy measures to be

implemented through the institutional structures of production, the entrepreneurs are more frequently targeted than the workers and consumers, except for the period 1960-1970, where the consumers were more frequent targets. In spite of its favourable prejudice vis-à-vis labor, the measures planned by the Parti Québécois in the institutional structures of policy implementation benefit more often to the entrepreneurs than to the workers. Ironically enough, the measures considered by the PLQ in the 1980's profit more often to the workers than it is the case in the programs developed by the Parti Québécois. Finally, one may notice that the policy measures based on the structures of production from 1960 to 1989 tend to profit less and less often to the consumers in the case of the Parti Libéral, whereas they tend to benefit more often to consumers in the case of the PQ.

If one turns attention to the policy measures based on the regulatory instruments, one may notice that they tend to target more often the workers than the other categories of instruments. Moreover, the policy changes to be implemented through the regulatory instruments tend to benefit more often to consumers than to the entrepreneurs and workers. This latter tendency is especially strong in the programs of the Parti Québécois although, as the figures of Table 5 indicate, the Parti Libéral is as much generous as the PQ vis-à-vis the consumers.

Finally, with respect to the financial instruments of policy implementation, the figures of Table 5 indicate that they benefit more often to the consumers in the programs of the Parti Québécois, whereas they profit more frequently to the entrepreneurs in the programs of the Parti Libéral.

If one turns attention to the goods and services produced and provided through the different categories of instruments, three main points need to be emphasized: the regulatory instruments are employed to supply club goods twice more often than to provide public goods; the financial instruments are employed to produce club goods more frequently than any other type of goods; the policy measures based on the institutional structures tend to generate, like one might have expected, ambiguous goods. (Table 6).

Table 5						
Beneficiaries of the Policy Instruments by period, 1960-1989 (in percentage)						
Categories of instruments and beneficiaries	1960-1970		1970-1981		1981-1989	
	PLQ	UN	PLQ	PQ	PLQ	PQ
<u>PRODUCTION</u>						
Entrepreneurs	34.0	47.9	52.3	41.6	58.6	36.5
Workers	13.2	12.7	08.3	11.3	15.3	11.3
Consumers	52.8	39.4	39.4	47.1	26.1	52.2
	N=53	N=71	N=216	N=450	N=157	N=408
<u>REGULATION</u>						
Entrepreneurs	30.6	35.3	37.0	23.1	30.6	18.3
Workers	27.8	23.5	20.9	38.3	28.2	38.6
Consumers	41.6	41.2	42.1	38.6	41.2	43.1
TOTAL	N=36	N=51	N=273	N=519	N=170	N=524
<u>FINANCIAL INSTRUMENTS</u>						
Entrepreneurs	32.0	40.0	50.4	28.1	45.4	31.1
Workers	13.3	08.9	09.2	26.1	19.6	23.3
Consumers	56.7	51.1	40.4	45.8	35.0	45.6
TOTAL	N=75	N=90	N=228	N=356	N=163	N=421

Table 6						
Goods and Services provided through the policy instruments by period, 1960-1989 (in percentage)						
Categories of instruments and goods	1960-1970		1970-1981		1981-1989	
	PLQ	UN	PLQ	PQ	PLQ	PQ
	%	%	%	%	%	%
<u>PRODUCTION</u>						
Private goods	22.7	20.1	15.6	16.0	22.6	17.9
Club goods	14.4	14.9	22.6	20.4	30.2	23.2
Common pool goods	2.1	2.6	4.7	6.8	2.0	6.0
Public goods	18.6	11.1	13.9	14.3	10.1	12.9
Ambiguous goods	42.2	51.3	43.2	42.5	35.1	40.0
TOTAL	100.0 N=97	100.0 N=154	100.0 N=359	100.0 N=789	100.0 N=248	100.0 N=703
<u>REGULATION</u>						
Private goods	13.3	12.9	8.6	3.6	10.0	4.0
Club goods	53.3	50.0	49.2	52.5	55.0	55.2
Common Pool goods	4.5	1.6	2.8	1.1	3.6	1.7
Public goods	24.4	30.7	26.8	16.4	20.9	15.2
Ambiguous good	4.5	4.8	12.6	26.4	10.5	23.9
TOTAL	100.0 N=45	100.0 N=62	100.0 N=358	100.0 N=773	100.0 M=220	100.0 N=745
<u>FINANCIAL INSTRUMENTS</u>						
Private goods	26.7	33.6	36.1	16.4	38.5	22.7
Club goods	47.8	37.8	38.2	48.6	40.1	50.2
Common pool goods	2.2	5.1	7.4	5.5	6.8	3.7
Public goods	14.4	16.8	15.8	22.0	12.5	12.5
Ambiguous goods	08.9	6.7	2.5	7.5	2.1	10.9
TOTAL	100.0 N=90	100.0 N=119	100.0 N=285	100.0 N=451	100.0 N=192	100.0 N=512

Do ideological constraints induce parties to rely more intensively on private market mechanisms now than in the past? The answer is a simple no. Astonishingly, the emergence of the neo-liberal ideology has not yet induced the parties to increase significantly the role of the private market mechanisms and interest groups in their promises of policy interventions. However, contrarily to the Parti Libéral, the Parti Québécois has demonstrated a much stronger tendency to base the implementation of its policy measures on structures involving departments, local governments and local institutions such as schools and hospitals.

With respect to the criteria of resource intensiveness, although no clear trend can be derived from the figures concerning use of regulatory instruments from 1960 until 1989, one might notice that the Parti Québécois makes a more intensive use than the Parti Libéral of each tool of regulation, especially regulation involving individual rights and control over information.

The figures of Table 2 to Table 5 indicate that variations are higher between the policy instruments and the policy domains than between the parties. Likewise, these figures indicate that ideological and financial constraints do not explain the variations occurring in the policy measures developed by the political parties. These results might suggest that the intensity of electoral competition is weak. Let us now consider this issue.

The intensity of competition can be measured by comparing the magnitude of differences between party programs concerning particular policy instruments (on particular domains of policy

interventions). The level of intensity of competition can be calculated according to the following formula:

$$\text{Intensity of Competition} = \frac{1}{2} \sum_{i=1}^n |x_i - y_i|$$

where x_i is the percentage of the policy measures offered by the party x based on the policy instrument i, and y_i is the percentage of the policy measures offered by the party y based on that same policy instrument. The levels of intensity of competition can vary from zero to 100 with zero indicating the maximum level in the intensity of competition and 100 indicating the minimum level in the intensity of competition. Intensity of competition has been calculated for each policy instrument and each period of 10 years and then averaged over the whole time period of 30 years in order to detect possible trends in the intensity of competition.

Table 7				
Intensity of competition on the Policy instruments by period, 1960-1989				
Category of Policy instruments	PLQ-UN 1960-1970	PLQ-PQ 1970-1981	PLQ-PQ 1981-1989	PLQ-UN/PQ 1960-1989
PRODUCTION				
Firms and interest groups	45.6	35.5	42.4	35.1
Departments	34.6	37.4	34.3	27.8
Local governments, schools and hospitals	39.6	28.7	36.9	23.8
REGULATION				
Attributes of goods and methods of production	50.0	31.5	38.0	33.2
Conditions regarding prices and selling	69.7	38.9	57.4	34.4
Employment conditions	30.0	17.1	11.1	13.0
Entry and exit of producers	33.3	58.4	60.5	50.8
Individual rights and control over information	60.4	32.4	27.2	24.3
FINANCIAL INSTRUMENTS				
Financial assistance	29.3	26.2	35.3	17.2
Taxation	29.8	24.1	21.8	24.7
Costs of goods and services	58.3	44.7	75.7	31.4
Other financial instruments	65.7	34.0	30.6	24.3

There is a very high level of competition between the Parti Libéral and the Parti Québécois with respect to the policy measures to be implemented through the regulatory instruments concerning conditions of employment and the intensity of competitions has been increasing from 17 to 11 from 1970-1981 to 1981-1989. The level of competition is also high on the policy measures based on taxation and fiscal incentives where it has evolved from 24 to 22 from 1970-1981 to 1981-1989. Finally, the policy measures channelled through the regulatory instruments involving individual rights and provision of information are also objects of an intense and increasing competition between the parties.

One may expect that intensity of competition does not depend only on the policy instruments but that it is also function of the policy domains considered. Intensity of competition has therefore been redefined to include the contribution of the policy domains to measure the magnitude of differences in the various policy instruments. In this case, intensity of competition is defined as:

$$\text{Intensity of Competition} = \frac{1}{2} \sum_{k=1}^n \left| x_{ik} - y_{ik} \right|$$

where x_i is the contribution of the policy domain k to the policy instrument i used by the party x , and y_{ik} is the contribution of the policy domain k to policy instrument i used by the party y

Table 8				
Policy Domains	Intensity of Competition on the Policy Domains by Period, 1960-1989			
	PLQ-UN 1960-1970	PLQ-PQ 1970-1981	PLQ-PQ 1981-1989	PLQ-UN/PQ 1960-1989
<u>Governmental Sector</u>				
Constitution	100.0	35.6	58.4	47.3
Political Regime and morality	<u>62.5</u>	<u>30.6</u>	<u>16.7</u>	18.6
Electoral Institutions	<u>50.0</u>	<u>47.7</u>	<u>41.7</u>	42.5
Adm. management	27.3	48.9	43.3	46.8
Justice	22.9	23.9	17.8	16.8
Municipalities and regions	30.3	30.4	42.9	29.5
International Affairs	<u>50.0</u>	<u>50.0</u>	<u>50.0</u>	37.5
<u>Economic Sector</u>				
Taxation	23.1	07.4	16.1	08.6
Public Finances		<u>50.0</u>	<u>50.0</u>	50.0
Financial Institutions	50.0	24.5	55.0	26.8
Research and Technology	00.0	29.3	25.3	21.5
Economic Policies	<u>23.6</u>	<u>21.0</u>	<u>20.1</u>	18.1
Public Services	<u>100.0</u>	<u>44.8</u>	<u>31.3</u>	30.2
Agriculture	29.1	12.9	43.8	13.5
Forests	50.0	35.0	56.0	27.5
Fisheries	50.0	45.0	45.0	34.7
Mines	50.0	55.7	80.8	69.2
Tourism	31.4	<u>36.8</u>	<u>49.6</u>	32.9
Transportation		<u>50.0</u>	<u>50.0</u>	50.0
<u>Social Sector</u>				
Social security	42.9	20.1	20.5	23.0
Social services and health	<u>21.2</u>	<u>21.8</u>	<u>22.7</u>	12.7
Family	32.2	29.9	35.8	29.6
Labor	22.2	29.8	20.2	20.7
Social equipments and environment	23.6	44.5	31.1	34.4
Consumption	69.2	38.9	50.0	34.2
<u>Educational and Cultural Sector</u>				
Language	50.0	17.7	42.6	32.4
Education	24.4	44.2	19.1	21.5
Culture	31.6	55.2	47.3	46.1
Leisure	50.0	40.7	71.7	36.9
Communications	50.0	47.2	87.0	48.5
Immigration	75.0	81.1	50.0	50.8
Emigration		50.0		50.0

The level of competition is strong and increasing in the policy domains concerning justice, political regime and morality, economic policies, education, research and technology. Although still intense competition has been decreasing in the domains concerning agriculture and taxation. Finally, the level of competition has remained very high and very stable in the policy area of health and social services.

Conclusion

The studies on the policy determinants indicate that ideological differences between parties explain differences in the policy measures. These studies do not usually take into account the variations generated through the policy instruments employed to implement the policy measures. Our study indicates that the variations are higher between different policy instruments than between different political parties using the same instrument. Furthermore, our study provides evidence indicating that the variations concerning the use of the policy instruments depend more on the specificities of the policy domains than on differences between the political parties. However, data also indicate that the social democrat party demonstrates a higher propension to base its policy measures on governmental institutional structures than to implement them through private firms and interest groups. Likewise, data indicate that the social democrat party demonstrates a higher propension to use more "dirigist" policy instruments than the other party. On the other hand, data also clearly indicate that the party promoting market solutions, the Parti Libéral, is willing to base its measures on the recourse of governmental agencies and additional regulatory control in matters involving public goods such as environment and research

and technology. When attention is turned to intensity of competition between the parties, our results indicate that competition is intense with respect to a few policy instruments and in small number of policy domains. These results might indicate that political competition is more complex than usually expected and that further attempts might consider alternatives to the usual research strategies that model competition on the mode of direct confrontations on the policy domains, and to seek to document more deeply competition taking place on the mode of selective emphasis laid on specific policy domains and specific policy instruments

REFERENCES

- Doern, G.B., & Phidd, R.W. (1983), Canadian public policy: Ideas, structure, process, Toronto: Methuen.
- Hood, C., (1986), The tools of government, Chatham: Chatham House Publishers.
- Howlett, M., (1991), "Policy Instruments, Policy Styles, and Policy Implementation: National Approaches to Theories of Instrument Choice", Policy Studies Journal, 19-2:1-21.
- Landry, R., (1992), "L'analyse de contenu", pp. 337-360 in B. Gauthier, ed., Recherche sociale: De la problématique à la collecte des données, Sillery, Les Presses de l'Université du Québec.
- Linder, S.H. & Peters, B.G., (1989), "Instruments of government: Perceptions and contexts", Journal of Public Policy, 9 (1), 35-38
- Lowi, T.J., (1966), Distribution, regulation, redistribution: The functions of government. In R.B. Ripley (Ed.), Public policies and their politics: Techniques of government control, pp. 27-40, New York: W.W. Norton.
- Lowi, T.J. (1972), "Four systems of policy, politics and choice", Public Administration Review, 32(4), 298-310.
- Ostrom, E., (1990), Governing the commons: The Evolution of Institutions for Collective Action, New York, Cambridge University Press.
- Ostrom, E., L. Schroeder and S. Wynne, (1993), Institutional Incentives and Sustainable Development. Infrastructure Policies in Perspective, Boulder, Co., Westview Press.
- Trebilcock, M.J., Hartle, J.S., Prichard, J.S. & Dewees, D.W. (1982), The Choice of governing instrument, Ottawa: Economic Council of Canada.
- Woodside, K. (1986), Policy instruments and the study of public policy, Canadian Journal of Political Science, 19 (4), 775-794.